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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,425	03/12/2004	Hiroshi Ono	250040US3	6540

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EXAMINER	
CRENSHAW, MARVIN P	

ART UNIT	PAPER NUMBER
2854	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H·A

Office Action Summary	Application No.	Applicant(s)	
	10/798,425	ONO ET AL.	
	Examiner	Art Unit	
	Marvin P. Crenshaw	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 31* is/are pending in the application.

4a) Of the above claim(s) *29 - 31* is/are withdrawn from consideration.

5)☒ Claim(s) *25 - 28* is/are allowed.

6)☒ Claim(s) *1, 2, 6, 10, 11 and 15 - 24* is/are rejected.

7)☒ Claim(s) *3 - 5, 7 - 9 and 12 - 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/14/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1 - 31 in the reply filed on June 24, 2004 is acknowledged. The traversal is on the ground(s) that the case can be searched without a serious burden. This is not found persuasive because claims 29 – 31 are directed to another invention that would require a different field of search.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 23, it is not clear what is included in the process cartridge. The photosensitive member is defined in the preamble as being an element of the image formation apparatus but in the body of the claim, it is part of the process cartridge. It is not clear how the photosensitive member can be an element of both the image formation apparatus and the process cartridge.

With respect to claim 24, there is no positively claimed structure of the belt. It appears that the entire body of the claim is directed to the image formation apparatus, which is not positively claimed.

Allowable Subject Matter

Claims 25 – 28 are allowed.

Claims 3 - 5, 7 – 9 and 12 – 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

With respect to claim 3,the prior art does not teach or render obvious the total combination as claimed including the shaft coupling device wherein the grip portion and the first shaft are one piece.

With respect to claim 4, the prior art does not teach or render obvious the total combination as claimed including a shaft coupling device wherein end portions of the first shaft and the second shaft, the end portions being coupled to each other are respectively inserted into a shaft center holding portion configured to hold the first shaft and the second shaft coaxially to each other, and the shaft center holding portion is positioned at a distance away from a tip of the end of the grip portion the distance being greater than the length of the notches.

With respect to claim 7, the prior art does not teach or render obvious the total combination as claimed including a shaft coupling device wherein the grip force acting unit and the grip unit include screw portions, and the grip force acting unit moves toward the grip unit when the screw portions are screwed onto each other.

With respect to claim 8, the prior art does not teach or render obvious the total combination as claimed including a shaft coupling device wherein a contacting portion of the grip unit at which the grip unit contacts the grip force acting unit is tapered, and

the grip force acting unit abuts on the contacting portion to move the grip portion in the radial direction when the grip force acting unit is moved toward the grip unit.

With respect to claim 9, the prior art does not teach or render obvious the total combination as claimed including a shaft coupling device wherein the grip force acting unit is a clamp member configured to fasten the grip portion from around an outer periphery of the grip portion.

With respect to claim 12, the prior art does not teach or render obvious the total combination as claimed including a shaft coupling device wherein the grip force acting unit rotates around and moves in parallel with the central axis of the output shaft as the grip force acting unit is screwed onto the grip unit.

With respect to claim 25, the prior art does not teach or render obvious the total combination as claimed including an image formation apparatus comprising a rotating member supporting shaft configured to support a rotating member, an output shaft of a motor configured to rotate the rotating member supporting shaft and a shaft coupling device configured to couple the rotating member supporting shaft and the output shaft, and includes with a central axis of the output shaft and configured to grip the rotating member supporting shaft by abutting the parallel surface on the rotating a grip unit including a parallel surface parallel member supporting shaft and a grip force acting unit configured to cause a grip force gripping the rotating member supporting shaft to act on the parallel surface, wherein the grip force acting unit moves along an outer peripheral surface of the grip unit in parallel with a central axis of the output shaft to change a pressure acting on the grip unit and the parallel surface of the grip unit is caused to abut

on an outer peripheral surface of the rotating member supporting shaft by the pressure to grip the rotating member supporting shaft.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 6, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith et al.

Smith et al. teaches a shaft coupling device (Fig. 1) which couples a first shaft (14) and a second shaft (12) together, comprising a grip unit (20) to be attached to the first shaft and including a grip portion (23) configured to grip the second shaft, the grip portion having an end with notches of a length being parallel with an axial direction of the first shaft and a grip force acting unit (16) to be attached to the second shaft and

configured to cause a grip force for gripping the second shaft to act on the grip portion by moving the grip portion in a radial direction of the second shaft.

With respect to claim 2, Smith et al. teaches the shaft coupling device (Fig. 2) wherein the grip unit is detachably attached to the first shaft.

With respect to claim 6, Smith et al. teaches the shaft coupling device (Fig. 2) wherein the grip force acting unit (16) causes the grip force to act on the grip portion by abutting (Fig. 5) on the grip portion to move the grip portion in the radial direction when the grip force acting unit is moved toward the grip unit.

With respect to claim 10, Smith et al. teaches a shaft coupling device (Fig. 2) that couples a first shaft (14) and a second shaft (12) comprising a grip unit (23) including a parallel surface parallel with a central axis of the first shaft and configured to grip the second shaft by abutting the parallel surface on the second shaft and a grip force acting unit (16) configured to cause a grip force for gripping the second shaft to act on the parallel surface, wherein the grip force acting unit (Fig. 5) moves along an outer peripheral surface of the grip unit in parallel with a central axis of the second shaft to change a pressure acting on the grip unit, and the parallel surface of the grip unit is caused to abut on an outer peripheral surface of the second shaft by the pressure to grip the second shaft.

With respect to claim 11, Smith et al. teaches the shaft coupling device (Fig. 2) wherein one of the first shaft (14) and the second shaft (12) is a rotating member supporting shaft configured to support a rotating member and another one of the first

shaft and the second shaft is an output shaft of a motor (Fig. 1, 17) configured to rotate the rotating member supporting shaft.

Claims 23 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Tsujimoto et al.

With respect to claim 23, Tsujimoto et al. teaches a process cartridge comprising a photosensitive member (31C to 31K) integrally assembled with at least one of a charging device (39C to 39K), a developing device (38C to 38K) and a cleaning device (Fig. 1) for cleaning a surface of the photosensitive member, and is attachable to and detachable from an image formation apparatus,. This meets the claimed structure set forth in claim 23.

With respect to claim 24, Tsujimoto teaches a belt unit to be mounted in an image formation apparatus. Since the image formation apparatus is not positively claimed, the belt unit of Tsujimoto anticipates the structure of the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 15 - 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujimoto et al. in view of Smith et al.

With respect to claim 15, Tusjimoto et al. teaches an image formation apparatus (Fig. 8) comprising a rotating member (Fig. 1) supporting shaft configured to support a rotating member, an output shaft of a motor(Fig. 6B) configured to rotate the rotating member supporting shaft.

However, Tsujimoto et al. does not teach a shaft coupling device.

Smith et al. teaches a shaft coupling device (Fig. 1) configured to couple the rotating member (Fig. 6B) supporting shaft and the output shaft and includes a grip unit (20) having a grip portion to be attached to one of the rotating member supporting shaft and the output shaft to grip another one of the rotating member supporting shaft and the output shaft and a grip force acting unit (16) to be attached to the another one to cause a grip force for gripping the another one to act on the grip portion by moving the grip portion in a radial direction of the another one.

It would have been obvious to modify Tsujimoto et al. to have a shaft coupling device as taught by Smith et al. to provide an efficient means for attaching and detaching the rotating member.

With respect to claim 16, Tsujimoto et al. teaches the image formation apparatus Fig. 1) wherein the rotating member (Fig. 6b) supporting shaft includes a rotating engagement member integrated with the rotating member supporting shaft and engaged with the rotating member to rotate integrally with the rotating member and a bearing (91 and 92) that rotatably supports the rotating member supporting shaft and the rotating member is attachable to and detachable from the rotating member supporting shaft.

With respect to claim 17, Tsujimoto et al. teaches the image formation apparatus wherein the rotating member is a drum-shaped photosensitive member (Fig. 6b).

With respect to claim 18, Tsujimoto et al. teaches the image formation apparatus comprising a plurality of the photosensitive member (Fig. 1).

With respect to claim 19, Tsujimoto et al. teaches the image formation apparatus (Fig. 1) wherein the rotating member is a belt supporting member that supports a belt (14) so as to allow conveyance of the belt.

With respect to claim 20, Tsujimoto et al. teaches the image formation apparatus wherein the motor (33) is of a direct driving type not having a reduction mechanism.

With respect to claim 21, Tsujimoto et al. teaches the image formation apparatus wherein the motor (33) includes a planetary roller reduction mechanism (35c).

With respect to claim 22, Tusjimoto et al. teaches the image formation apparatus (Fig. 1) further comprising a structural unit including the photosensitive member integrally assembled with at least one of a charging device (17C to 17K), a developing device (38C to 38K), and a cleaning device (Fig. 1) for cleaning a surface of the photosensitive member and being attachable to and detachable from the rotating member supporting shaft.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marvin P. Crenshaw whose telephone number is (571) 272-2158. The examiner can normally be reached on Monday - Thursday 7:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MPC
September 6, 2005

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